sPHENIX EC Meeting

May 18, 2016

Agenda

- News from today's meeting with Berndt
- Strategy for responding to ALD charge
- Formation of EIC/spin working group?
- Publication process
- Frequency of collaboration meetings

Charge from ALD Berndt Mueller

"I have therefore requested that sPHENIX Project Management, in close collaboration with the sPHENIX Collaboration, develops a credible plan encompassing an option of baseline design scope, cost, and schedule that will allow the detector to be completed on schedule for data taking in the FY2022 RHIC run within the presently foreseen DOE funding profile, and that the sPHENIX Project Management present this plan to BNL management no later than May 31, 2016. The plan should maintain the 40% contingency requested by the cost and schedule review. This plan should not assume the availability of additional funding from non-DOE sources, but may describe which elements would be added to the baseline scope of sPHENIX if additional funding became available."

ALD Charge

- Charge reduces to saving ~$4M out of ~$18M “discretionary” M&S items:
  - Inner Tracker
  - **Outer Tracker**
  - **EMCal**
  - Magnet
  - Inner HCal
  - **Outer HCal**
  - **DAQ/Trigger**
  - non-bold items: Either no or little cost (hence no savings) or not discretionary (Magnet)
  - Special case: inner tracker, where we may want to improve on MIE configuration (anti-savings)
- **Need to optimize capabilities for <u>compelling</u> physics related to sPHENIX science case within constraints**
  - Not just a paper exercise - some choices we make may stick
  - But: This is “worst-case” funding scenario, i.e., no non-DOE, non-US contributions

Options, options, options…

https://paper.dropbox.com/doc/sPHENIX-re-scoping-options-nn5FoOe7tlWHVjewVCae7

This is a Dropbox paper. Everybody with the link and a Dropbox account can add comments or modify the main text of the document. Comments would be great; we trust that any edits of the main body of the document would be done judiciously. There is no learning curve associated with Dropbox paper, but we'll also transcribe any comments received by email etc.

Let’s have a look…

Technical paper in preparation

https://wiki.bnl.gov/sPHENIX/index.php/T-1044_publication

Publication timeline: Oct, 2016
Intended journal: NIM or IEEE

Beam Test Results for the sPHENIX Electromagnetic and Hadronic Calorimeter Prototypes.

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Abstract

sPHENIX is a proposed new experiment at the Relativistic Heavy Ion Collider (RHIC) at Brookhaven National Laboratory designed to probe the properties of the quark-gluon plasma (qgp) using jets. The new sPHENIX detector is based on the former BaBar 1.5 T superconducting solenoid and consists of a tracking system, electromagnetic and hadronic calorimetery covering 2π in azimuth and $-1 \leq \eta \leq 1$ in pseudorapidity.

This article describes the sPHENIX Electromagnetic and Hadronic Calorimeter prototype detectors and associated readout electornics and their performance in tests conducted at the Fermilab Test Beam Facility as part of experiment T-1044 in the spring of 2016.

Keywords: `RHIC, sPHENIX, Electromagnetic Calorimetery, Hadronic Calorimetery, SpaCal, SiPM, Prototypes`

1. Introduction [Megan] - Comment go to both emcal and hcal list.
2. Prototype Electromagntic Calorimeter [Vera] - Comment go to emcal list
    1. Overview
    2. Block construction [Vera]
    3. Light collection [Sean]
    4. Assembly and support [Sean]
3. Prototype Hadronic Calorimeter [Abhisek] - Comment go to hcal list
    1. Overview
    2. Tile construction - [Ed K.]
    3. Tile testing - [Ron]
    4. Absorber and assembly - [TBD]
    5. Tilt - [Abhisek]
4. Readout electronics and DAQ - [Ron] - Comment go to electronics list
    1. SiPM - [Sean?]
    2. Pre-amp - [Steve]
    3. Slow control - [Steve]
    4. ADC - [Chi]
    5. RCDQA - [Martin]
5. Simulation - [Jin]
    1. Framework - [Chris]
    2. EMCal - [Jin]
    3. HCal - [Chris, Murad]
6. Test beam - [Ron] - Comment go to emcal + HCal list
    1. Overview
    2. Setup
    3. Beam study (PbGl) - [Vera]
7. Results (see #Target plots) - [Megan]
8. Conclusion